

Claims

Sub B1

1. A composite comprising *Parthenium* spp. plant material and plastic.
2. The composite of claim 1, wherein the *Parthenium* species comprises *Parthenium argentatum*, *Parthenium tomentosum* or *Parthenium incanum*.

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3. The composite of claim 1, wherein the *Parthenium* spp. plant material comprises (a) whole plant material, (b) plant part material, (c) bagasse, or (d) a combination of (a) - (c).
4. The composite of claim 1, wherein the *Parthenium* spp. plant material is processed.
5. The composite of claim 4, wherein the plant material is processed by a mechanical or chemical reduction process.

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6. The composite of claim 4 wherein the processed *Parthenium* spp. plant material comprises fibers, fiber bundles, particles, flour, chips, flakes, fines, sawdust, pellets, strands, wafers or combinations thereof.
7. The composite of claim 1, wherein the plastic is thermoplastic.
8. The composite of claim 7, wherein the thermoplastic is acrylonitrile-butadiene-styrene; acetal; nylon, including polyamide; high and low density polyethylene, including co-polymers; polypropylene, including co-polymers; polystyrene; or vinyl.

9. The composite of claim 7, wherein the ratio of thermoplastic to plant material ranges by weight from 95% thermoplastic:5% plant material to 5% thermoplastic:95% plant material.

10. The composite of claim 1, wherein the plastic is thermoset.

11. The composite of claim 10, wherein the thermoset is alkyd; allylic; amino, including melamine and urea; epoxy; phenolic; polyester; silicone; or urethane.

12. The composite of claim 10, wherein the ratio of thermoset to plant material ranges by weight from 15% thermoset:85% plant material to 3% thermoset:97% plant material.

13. The composite of claim 1, wherein the plastic is virgin, recycled, or a combination of both virgin and recycled plastic.

14. The composite of claim 1, wherein the composite is made by the air-laying, melt-blending or compression molding method.

15. The composite of claim 1, wherein the composite is particle board or fiberboard.

16. The composite of claim 1, wherein the *Parthenium* spp. plant material further comprises plant material from a plant other than the genus *Parthenium*, added *Parthenium* spp. natural resin extract or combinations thereof.

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17. The composite of claim 1, wherein the composite exhibits at least a 30% decrease in termite infestation relative to a composite not containing plant material derived from the genus *Parthenium*.

18. The composite of claim 1, wherein the composite exhibits a rating of resistant or highly resistant to *Gleophyllum trabeum* or *Poria placenta* decay fungi as determined by ASTM standard test D-2017.

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